

Serial number: 10/020,638

AMENDMENTS TO THE CLAIMS

Listing of the Claims

- Claim 1. currently amended
- Claim 2. original
- Claim 3. original
- Claim 4. original
- Claim 5. original
- Claim 6. original
- Claim 7. currently amended
- Claim 8. original
- Claim 9. original
- Claim 10. original
- Claim 11. original
- Claim 12. original

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Text of Claims Currently Under Examination

1. (currently amended) A silicon wafer having a B-stageable underfill material deposited on one face of the wafer, the B-stageable underfill comprising a combination of two chemical compositions,
a first composition that is a liquid, or a solid dissolved or dispersed in a solvent, and
a second composition that is a solid or semi-solid material at room temperature, dispersible or dissolvable either in the first composition if the first composition is a liquid, or in the solvent for the first composition if the first composition is a solid dissolved or dispersed in a solvent,
the second composition having a curing temperature or curing temperature range higher than the curing temperature or curing temperature range of the first composition,
the curing temperatures or curing temperature ranges sufficiently separated to allow the first composition to cure without curing the second composition,
characterized in that the first composition has been cured at a temperature within the range of 100°C to 150°C and the second composition is uncured.
2. (original) The silicon wafer according to claim 1 in which the curing temperatures of the first and second composition are separated by at least 30°C.
3. (original) The silicon wafer according to claim 1 in which the first composition is selected from the group consisting of acrylic compounds; cycloaliphatic epoxy compounds, bismaleimide compounds; and bismaleimide compounds in combination with vinyl ether, vinyl silane, styrenic or cinnamyl compounds.
4. (original) The silicon wafer according to claim 1 in which the second composition is an epoxy compound.

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5. (original) The silicon wafer according to claim 4 in which the second composition is an epoxy compound and an imidazole/anhydride adduct.
6. (original) The silicon wafer according to claim 5 in which the imidazole/anhydride adduct is a complex of 1 part 1,2,4,5-benzenetetracarboxylic anhydride and 4 parts 2-phenyl-4-methylimidazole, or a complex of 1 part 1,2,4,5-benzenetetracarboxylic dianhydride and 2 parts 2-phenyl-4-methylimidazole.
7. (currently amended) A B-stageable underfill composition comprising a combination of two chemical compositions,
 - a first composition that is a liquid, or a solid dissolved or dispersed in a solvent, and
 - a second composition that is a solid or semi-solid material at room temperature, dispersible or dissolvable either in the first composition if the first composition is a liquid, or in the solvent for the first composition if the first composition is a solid dissolved or dispersed in a solvent,
 - the second composition having a curing temperature or curing temperature range higher than the curing temperature or curing temperature range of the first composition,
 - the curing temperatures or curing temperature ranges sufficiently separated to allow the first composition to cure without curing the second compositioncharacterized in that the first composition is curable at a temperature within the range of 100°C to 150°C.
8. (original) The B-stageable underfill composition according to claim 7 in which the curing temperatures of the first and second compositions are separated by at least 30°C.
9. (original) The B-stageable underfill composition according to claim 7 in which the first composition is selected from the group consisting of acrylic compounds; cycloaliphatic epoxy compounds, bismaleimide compounds; and

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bismaleimide compounds in combination with vinyl ether, vinyl silane, styrenic or cinnamyl compounds.

10. (original) The B-stageable underfill composition according to claim 7 in which the second composition is an epoxy compound.
11. (original) The B-stageable underfill composition according to claim 10 in which the second composition is an epoxy compound with an imidazole/anhydride adduct.
12. (original) The B-stageable underfill composition according to claim 9 in which the imidazole/anhydride adduct is a complex of 1 part 1,2,4,5-benzenetetracarboxylic anhydride and 4 parts 2-phenyl-4-methylimidazole, or a complex of 1 part 1,2,4,5-benzenetetracarboxylic dianhydride and 2 parts 2-phenyl-4-methylimidazole.